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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. | |
|--------------------------------------|-------------|----------------------|-------------------------|------------------|--|
| 10/519,015 | 12/21/2004 | Pascal Leclerc | 034299-613 | 7248 | |
| 7590 06/21/2006 | | | EXAMINER | | |
| Robert E Krebs | | | SONG, SARAH U | | |
| Thelen Krebs & Priest P O Box 640640 | | | ART UNIT | PAPER NUMBER | |
| San Jose, CA 95164-0640 | | | 2874 | | |
| | | | DATE MAILED: 06/21/2006 | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | H:A | | | | |
|--|--|---|--|-----------|--|--|--|--|
| | Applicati | on No. | Applicant(s) | | | | | |
| Office Action Summary | | 15 | LECLERC ET AL. | | | | | |
| | | r | Art Unit | | | | | |
| | Sarah So | ng | 2874 | | | | | |
| The MAILING DATE of this comm Period for Reply | unication appears on the | e cover sheet with th | e correspondence add | fress | | | | |
| A SHORTENED STATUTORY PERIOD WHICHEVER IS LONGER, FROM THE - Extensions of time may be available under the provisi after SIX (6) MONTHS from the mailing date of this co. If NO period for reply is specified above, the maximum - Failure to reply within the set or extended period for re Any reply received by the Office later than three month earned patent term adjustment. See 37 CFR 1.704(b) | MAILING DATE OF Thoms of 37 CFR 1.136(a). In no evimmunication. In statutory period will apply and weply will, by statute, cause the apply after the mailing date of this co | HIS COMMUNICATI rent, however, may a reply be rill expire SIX (6) MONTHS fr blication to become ABANDO | ON. e timely filed rom the mailing date of this cor DNED (35 U.S.C. § 133). | | | | | |
| Status | | | | | | | | |
| 1) Responsive to communication(s) | filed on 17 April 2006. | | | | | | | |
| 2a) ☐ This action is FINAL . | 2b)⊠ This action is n | non-final. | | | | | | |
| 3) Since this application is in condition | •— | | prosecution as to the | merits is | | | | |
| • | closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213. | | | | | | | |
| Disposition of Claims | | | | | | | | |
| 4)⊠ Claim(s) <u>1-22</u> is/are pending in the application. | | | | | | | | |
| 4a) Of the above claim(s) is | 4a) Of the above claim(s) is/are withdrawn from consideration. | | | | | | | |
| 5) Claim(s) 10 and 18 is/are allowed | 5) Claim(s) 10 and 18 is/are allowed. | | | | | | | |
| 6)⊠ Claim(s) <u>1-9,11-17 and 19-22</u> is/a | ☐ Claim(s) <u>1-9,11-17 and 19-22</u> is/are rejected. | | | | | | | |
| 7) Claim(s) is/are objected to | Claim(s) is/are objected to. | | | | | | | |
| 8) Claim(s) are subject to resi | triction and/or election r | equirement. | | | | | | |
| Application Papers | | | | | | | | |
| 9)☐ The specification is objected to by | the Examiner. | | | | | | | |
| 10)⊠ The drawing(s) filed on <u>21 December 2004</u> is/are: a)⊠ accepted or b)☐ objected to by the Examiner. | | | | | | | | |
| Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). | | | | | | | | |
| Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). | | | | | | | | |
| 11)☐ The oath or declaration is objected | I to by the Examiner. No | ote the attached Offi | ce Action or form PT0 | O-152. | | | | |
| Priority under 35 U.S.C. § 119 | | | | | | | | |
| 12)⊠ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a)⊠ All b)□ Some * c)□ None of: | | | | | | | | |
| | | | | | | | | |
| | _ | | | | | | | |
| | 3.⊠ Copies of the certified copies of the priority documents have been received in this National Stage | | | | | | | |
| | application from the International Bureau (PCT Rule 17.2(a)). | | | | | | | |
| * See the attached detailed Office action for a list of the certified copies not received. | | | | | | | | |
| | | | | | | | | |
| Attachment(s) | | _ | | | | | | |
| 1) Notice of References Cited (PTO-892) | · /DTO 040` | 4) Interview Summa | | | | | | |
| 2) Notice of Draftsperson's Patent Drawing Review 3) Information Disclosure Statement(s) (PTO-1449 | | Paper No(s)/Mail 5) Notice of Informa | i Date al Patent Application (PTO- | -152) | | | | |
| Paper No(s)/Mail Date | - , | 6) Other: | , | | | | | |

Application/Control Number: 10/519,015 Page 2

Art Unit: 2874

DETAILED ACTION

1. Applicant's communication filed on April 17, 2006 has been carefully studied by the Examiner. The arguments advanced therein, considered together with the amendments made to the claims, are persuasive and the rejections based upon prior art made of record in the previous Office Action are withdrawn. Claims 1, 2, 10 and 18 have been amended. Claims 19-22 have been added. Claims 1-22 are pending.

Claim Objections

2. Claims 1 and 2 are objected to because of the following informalities: Examiner suggests changing "it" to -the beam—to clearly distinguish what "it" is. Appropriate correction is required.

Claim Rejections - 35 USC § 103

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 4. Claims 1-3, 5-9, 11, 13-17 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikushima et al. (U.S. Patent 4,199,222 newly cited) in view of Huber (DE 199 58 547 A1 previously cited).
- 5. Regarding claims 1, 2, 5-7 and 13-15 Ikushima et al. discloses a device for automatically centering a laser beam in a light guide 3, such as a monomode or multimode optical fiber, this device comprising a scatterer (i.e. roughened end surface) including an entry face for the laser beam, the volume scatterer being configure to scatter the laser beam and automatically center the

Application/Control Number: 10/519,015

Art Unit: 2874

beam in the optical fiber. The volume scatterer is cylindrical ("has the same construction as the optical fiber", column 1, lines 49-51) and comprises a light reflector (i.e. cladding glass layer, column 1, lines 51-54) surrounding a side face. Ikushima et al. further discloses a lens (e.g. 19) placed on the entry face of the scatterer.

- 6. Ikushima et al. does not expressly disclose a volume scatterer.
- 7. Huber discloses a means for coupling a light source comprising a roughened end surface. Huber also discloses that the roughened end surface may be replaced by a volume scatterer in the waveguide. See Abstract.
- 8. Ikushima et al. and Huber are analogous art as pertaining to input couplers.
- 9. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Ikushima et al to comprise a volume scatterer in place of the roughened end surface, since Huber discloses the two to be art recognized equivalents.
- 10. Regarding claims 8, 9, 16 and 17, Ikushima et al. discloses a lens (E.g. 18) on an entry face, but does not expressly disclose a defocusing lens on an entry face, a reflector protruding beyond an entry face, or an auxiliary fiber placed on the entry face of the volume scatterer. However, defocusing lenses (e.g. collimators) are well known in the art for improving optical coupling characteristics. Additionally, GRIN fiber collimators are known in the art as auxiliary fibers for improving input coupling. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a defocusing lens or an auxiliary fiber such as a GRIN fiber lens on the entry face to optimize optical coupling characteristics. Also, it would have been obvious to one having ordinary skill in the art at the

time the invention was made to provide the reflector protruding beyond an entry face for the purpose of protecting the entry face from damage.

- 11. Regarding claims 19 and 20, Ikushima et al. in view of Huber does not expressly disclose the volume scatterer to be made from a material having an absorption coefficient that is as small as possible. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the volume scatterer of a material having a minimal absorption coefficient for the purpose of minimizing attenuation through the volume scatterer.
- 12. Regarding claims 3, 11, 21 and 22, Ikushima et al. in view of Huber discloses the claimed invention but does not expressly disclose the thickness of the volume scatterer is equal to at least 100 times the wavelength. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the appropriate thickness of the volume scatterer since it has been held that where the general conditions of a claim are disclosed by the prior art, discovering optimum or workable values involves only routine skill in the art.
- 13. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikushima et al. in view of Huber as applied to claim 1 or 2 as applicable above, and further in view of Müller et al. (U.S. Patent 5,401,270 previously relied upon).
- 14. Regarding claims 4 and 12, Ikushima et al. in view of Huber discloses the claimed invention but does not expressly disclose a polytetrafluoroethylene volume scatterer.
- 15. Müller et al. discloses a polytetrafluoroethylene volume scatterer.
- 16. Müller et al. is analogous art as pertaining to volume scatterers.

Application/Control Number: 10/519,015 Page 5

Art Unit: 2874

17. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a polytetrafluoroethylene volume scatterer in the device of Ikushima et al.

18. One of ordinary skill in the art would have been motivated to make the modification in order to provide a cost effective device.

Allowable Subject Matter

- 19. Claims 10 and 18 are allowed.
- 20. The following is a statement of reasons for the indication of allowable subject matter:

 The prior art of record does not disclose or suggest, either alone or in combination, the method of manufacturing the device in which a tubular light guide is used as a cutting punch.

Response to Arguments

21. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number: 10/519,015

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Page 6

Primary Examiner

Group Art Unit 2874